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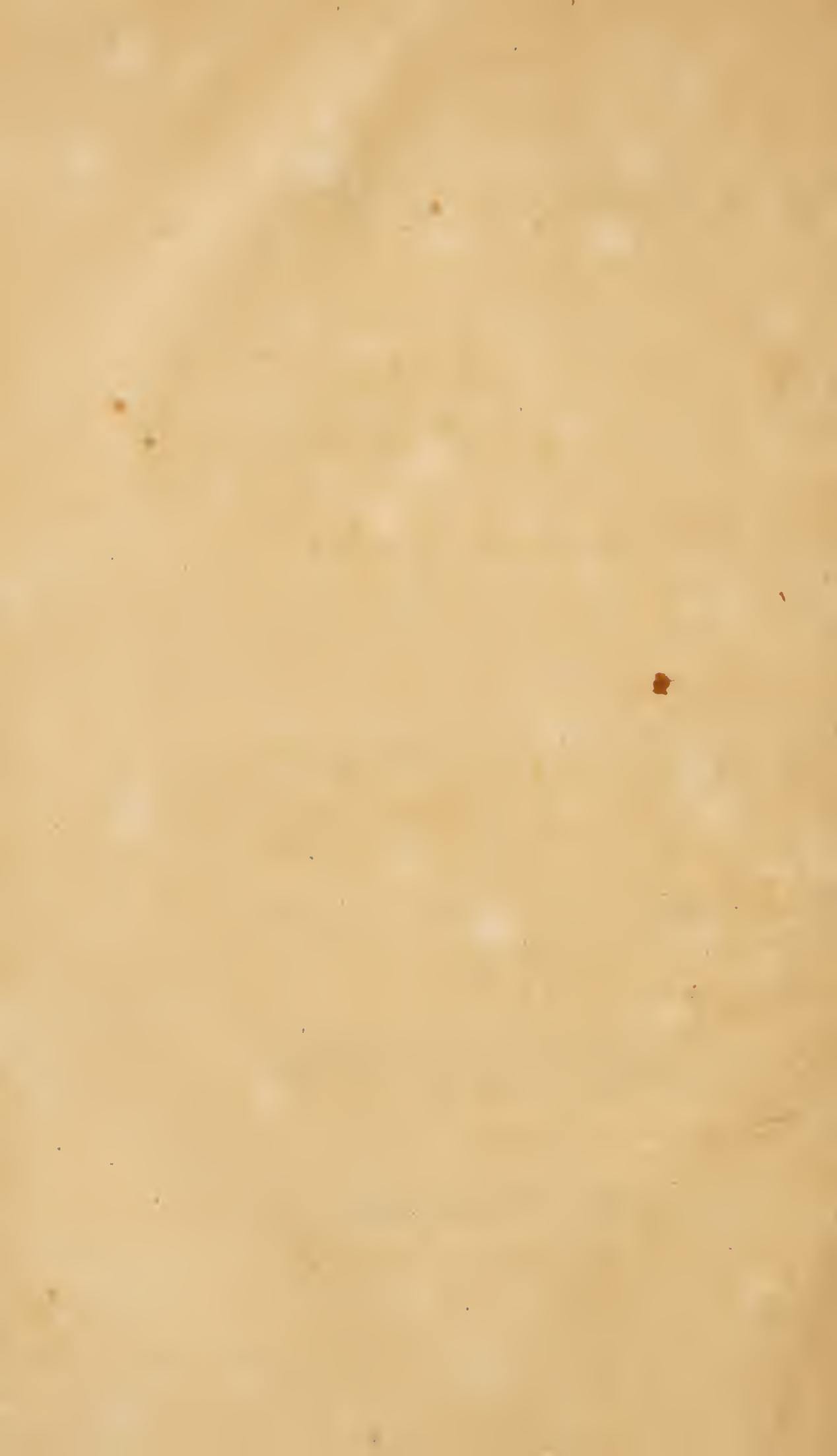


THE
PRACTICE
AND
THEORY
OF
INOCULATION.

WITH AN
ACCOUNT of its SUCCESS.



[Price One Shilling.]



THE
PRACTICE
AND
THEORY
OF
INOCULATION.

WITH AN
ACCOUNT of its Success,
IN A
LETTER to a FRIEND.

By THOMAS FREWEN, Surgeon,
at Rye, in Suffex.

Magna est Veritas, & prævalebit.

L O N D O N :

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P R E F A C E.

*THE Art of Inoculating the Small-Pox, ever since Mr. Maitland introduced it *, has been practised, more or less, in many Parts of this Kingdom; but, for many Years, like other Modes and Fashions, has met with Approbation or Dislike from the Prevalence of either Caprice or Faction, without attributing Merit or Demerit to its Success or Failing: And some of the Clergy, at first, as well as the Physicians, were drawn into Parties on the Occasion; some approving, and others disapproving the new Practice.*

* In 1721.

AMONG the learned Physicians, Dr. Jurin and Dr. Fuller appeared, as early Advocates, in its Favour ; and of late the great Dr. Mead, in his Book De Variolis & Morbillis, has bestowed a Chapter De Variolarum Infectione, with his Sentiments.

ITS Opponents have been many ; but, for the most Part, Men of little Note ; who endeavoured to vilify the Art, more, by promulgating false Reports and trumped-up Stories, than by having Recourse to either Argument or Experience.

BUT the Success, with which it has been attended for some Years past, seems, at this Time, to have established it on so firm a Basis, as to stop the Mouths of its Antagonists, and to let it make its own Way.

*SOME few Miscarriages, it is most certain, have happened ; which is nothing
wonderful*

*wonderful in the Small-Pox, human Nature being liable to them in much smaller Matters: And Providence seems to have ordained it so, that we should be continually mindful of its own Source for our Preservation. If therefore, instead of making an ill-natured Bounce at the few Failings, Men will but weigh the Advantages accruing to Numbers by this Practice, I believe the Ballance of Reason will presently be perceived to be in its Favour: For the Success of Hundreds does not at this Time appear to be so much a Matter of Wonder, as that One, of a great Number, should happen to die of the Distemper, which, taken in the common Way (besides the lamentable Effects it leaves behind it in many that recover) is wont to kill, according to the exactest Computation, One in Six. And Dr. Jurin, in his Accounts of the Success of Inoculation *, made it plainly appear that not more than One in Fifty (all Casualties*

* Published in the Years 1723, 1724, 1725, and 1726.

6 P R E F A C E.

*reckoned in) had died of it. Besides, the great Advantages of Experience, since that Time, will, I believe, be found, upon Enquiry, of such Weight as to have added a remarkable Success to it. For it does not appear, as the learned Dr. Mead judiciously observes *, so much a Matter of Consequence from what Body the Morbific Matter is taken, as that into which it is to be infused. Whence it is plainly evident that the Subject, to be inoculated, ought to be perfectly sound, or freed by due Management before-hand from all Manner of Impurities whatsoever, by the Direction of the Physician; for the Method must necessarily be varied as the Circumstances of the Patient may seem to require.*

THOSE general preparatory Means, made Use of in my own Practice, I have endeavoured to set forth in the following

** Plus mea opinione refert in quale corpus infundatur, quam de quali eximatur pestilentiae virus. De Variolis & Morbillis, p. 84.*

Epistle;

P R E F A C E.

7

Epistle ; (written some Time ago, and now published at the Request of a Friend.) And having been attended with remarkable Success, they will, I hope, give some Satisfaction to the candid and ingenuous Reader.

A N O T H E R principal Point, which I apprehend to be a Matter of Consequence, is to take Care that the Incisions, to which the variolous Venom or Taint is applied, be had Regard to; for it is manifest, that, be they ever so shallow, considerable Eschars will be thrown off in the Course of the Distemper, and then the Discharge, whether little or much, is to be looked upon as Critical; for I have never once observed, where those Eschars had been duly separated, any Contingent, or remarkably feverish Symptoms whatsoever.

A N D this seems to be the most reasonable Way of accounting why the Small-Pox produced by Inoculation is more rarely
ly

ly attended with a secondary Fever, than when taken in the natural Way; which, I take for granted, is allowed to be Matter of Fact beyond Contradiction.

THESE Matters, duly weighed and considered, will, I am persuaded, give some Satisfaction to the reasonable Enquirer of the Advantages accruing from this Art; especially after the Experience of near thirty Years Practice has approved it, in the Opinion of Men of Learning and Candour, to be the greatest Security against Danger from one of the most contagious Distempers, that human Nature is subject to.

T H E

THE
PRACTICE and THEORY
OF
INOCULATION.
IN A
LETTER to a FRIEND.

S I R,

THE Practice of Inoculation has been attended with such wonderful Success for above twenty Years past, that it does not, at this Time, stand in Need of Advocates to prop and support it: But, as you have laid an Obligation on me, to give you my Sentiments, with some Account of my own Practice, and the Success attending it, I shall readily oblige you in communicating every Thing occurring

B to

10 *The Practice and Theory*

to my Memory, that Experience or Observation can furnish me withal.

THAT the Art of Propagating the Small-Pox by Inoculation has been famous for its Success in other Nations, we have authentic Accounts given by many Writers: And though it is but of late Years, that the *Europeans* have come into it, yet History informs us that the *Greeks* and *Armenians* have successfully practised it for some hundred Years.

THE Mortality of the Small-Pox, taken by common Infection, in *England*, was, no Doubt, the Reason that it was at first introduced amongst us; for it is wonderful with how great an Expectation it was received, with how much Industry it was cultivated, and how soon it grew incredibly famous: The Royal Family, and many of the Nobility, and principal Gentry throughout the Nation, being the earliest Encouragers of it. Yet, notwithstanding,
it

it made but a slow Progress for several Years, as gaining but little Credit among the common Sort of People, who began to dispute about the Lawfulness of propagating Diseases; and, whether or no the Small-Pox produced by Inoculation would be a certain Security against taking it again by Infection; and also, whether other Diseases and morbid Contaminations of the Blood and Humours might not be likely to be engrafted along with it. But these Objections, and many more, have been long ago answered by Dr. *Fuller*, and other able Physicians, to the Satisfaction of Men of Learning and Candour: And Experience, from Length of Years, seems, at this Time, to have entirely got the better of every Argument of this Sort.

FOR my own Part, if I may give you my Opinion freely, I am so far from thinking this Art, under proper Care and Management, any Ways ha-

12 *The Practice and Theory*

zardous ; that, on the contrary, from the Experience of much Practice, I am convinced it is the only safe Means to conduct us through the most loathsome and perilous of all Distempers, without Scars or Deformities, or other fatal Contingencies.

IT is true, there are some, I believe, whose Blood, upon any preternatural Alteration, is so liable to be inflamed, that, notwithstanding all Manner of Precaution is used, it cannot be enough subdued, so as to produce the most mild and friendly Sorts of the Small-Pox ; but this must be submitted to where it so happens : For although, in such Subjects, the Disease, by Inoculation, may carry with it some Share of Malignity ; yet it is sufficient, that, by due Care and Management, it will probably be so far restrained, and kept under, as not to be rendered of the confluent, patechious, or bloody Sorts. And I am inclined to think,
that

that I have succeeded well with many Patients of this Kind, having had several, in whose Families the Small-Pox, taken in the natural Way, has usually proved very fatal.

THE Small-Pox is supposed to arise from a pestilential *Virus*, or Matter lodged in the Blood, which, sooner or later, being moved or acted upon, by some evident Cause, or peculiar Constitution of the Air, is disposed to break out, on most People, at one Time or other; and the more early, usually the better: For it is seldom we observe the Distemper to be favourable in those who are advanced in Years; so that the Matter seems to multiply itself in the Blood, and augment with the Patient's Age. And this, probably, is the Reason why we generally meet with the Distemper more favourable in Infants, than in Adults.

How

14 *The Practice and Theory*

How far the projected Notions of our speculative Adepts in Philosophy, whose more refined Studies have let them into the Secret, that the Small-Pox, and many other Diseases, are propagated by Means of *Animalcula*, hatched from their Eggs, lodged in the Hair, Pores, &c. of human Bodies, may be likely to prevail in another Century, I shall not, at this present Time, much concern myself, being perfectly assured, that, as these Matters are too minute for our gross Senses, the Benefits of this occult Science must consequently remain unrevealed, till proper Instruments can be invented fitting to bring to Light the conjectured Origin of these wonderful Phænomena.

LET it therefore suffice, that the Powers of Nature and the true Causes of Things are too difficult to be resolved, and probably will for ever remain a Secret with the great Giver and
Disposer

Disposer of all Things, whose mysterious Rule, and Order of Providence, is beyond the Reach of human Comprehension.

SOME Things, however difficult to be accounted for, appear, notwithstanding, manifestly plain to our discerning Senses, as, that Mankind are not susceptible of the Small-Pox any more than once in their whole Life-time; and that the different Species of that Distemper are by no Means influenced by the Infection received, but are owing altogether to the different Temperaments of Individuals, and the various Incidents that befall them. But why the same Particles of infecting Matter, infused into different Bodies, should be productive of different Kinds of the Small-Pox, we can no more account for, than why we were made with such and such different Features and Complexions.

ALL that we can demonstrate plainly is, that the infecting Matter, applied
to

16 *The Practice and Theory*

to the Incisions, is, as Fire put to Fuel, and occasions such a Kind of the Small-Pox, as the *Fomes Morbi* in the Body, so infected, shall stir up. And this truly is as much as is necessary for our Knowledge, in Order to caution us against indiscriminately applying this Matter to Individuals, without being first satisfied that they are proper Subjects, or otherwise rendered fitting, by due Management before-hand, to receive the same. And this is as much as is requisite to be premised previous to the Operation.

ALTHOUGH Experience manifesteth that Inoculation may be practised with Safety, on young Subjects, at all Seasons of the Year; yet, forasmuch as Observation has convinced me how much more the Malignity of the Small-Pox, by Incision, as well as common Infection, has usually exerted itself in the Spring-time, I am the less inclined to recommend it then even to those
young

young Subjects: And for Adults, would have them lay Hold of the more favourable Opportunities, especially such as, when the Small-Pox, taken in the common Way, proves least malignant.

MEDICINAL Regimen, of some Sort, before Inoculation, is, for the most Part, necessary, though not always; and this is to be judged of with Regard to the Age, Habit of Body, and other Circumstances of the Patient. In a Plethory, Bleeding, Vomiting, &c. ought always to be recommended previous to the Operation; and, in a puny Habit, a light Infusion of the Bark, after a gentle Vomit or Purge, drank for some Time, proves greatly beneficial. But, in gross or robust Habits, I would always recommend a Course of *Æthiops-Mineral*, or *Cinnabar*, with a Milk-diet, for a Month or six Weeks, after plentiful Bleeding, and Purging. Those People, who are subject to peculiar Complaints, must be treated accordingly:

18 *The Practice and Theory*

ingly : And, by these Methods, I have succeeded with many *Valetudinarians*.

THE properest of all Vomiting Medicines is the *Radix Ipecacoanbæ*, either in Substance or Infusion ; but purging Medicines are to be varied according to the Condition and Strength of the Patient. For those of a gross Habit of Body, or suspected to have Worms, or Impurities of any Kind, I have usually given the following Powder, which has seldom or ever failed of answering my Intention.

℞ *Pulv. Rad. Jalap. p. iij.*
Cinnab. Nativ.
Calomel. Sing. p. j. m.

FOR a Man that is tolerably easy to be wrought upon, two Scruples of this Powder will do very well ; and there is seldom, or ever, Occasion to give more than fifty Grains : But, where gentler Purges are preferred, *Rhabarbarum*,

barum, vel Infus. Sennæ cum Sal. Glauber. &c. may be administered.

I HAVE, for the most Part, recommended a strict Regularity in Diet, except among the more temperate, and where the State of my Patients would not admit of such Alteration ; and, even then, have persuaded them to make Use of only the lightest Kinds of Animal-Food, and that in the most moderate Way that could be complied with : But the more strong and robust have made Puddings, Vegetables, Milk, &c. their chief Diet, for some Time before the Operation, forbearing to drink of strong and fermented Liquors. And I am inclined to think, that a Regularity in Diet, even with these, where it can be pursued long enough before-hand, will be likely to answer the Intention very well without almost any Physical Regimen.

BUT in all Cases, where Purging is necessary, I would chuse it should be

20 *The Practice and Theory*

administered early ; that, at the Time of the Operation, the Body may be restored to as quiet and undisturbed a Situation as can be : And, to effect this the better, I would have an exact Regulation observed with Regard to the Non-naturals, especially Going to Bed and Rising at stated Hours, moderate Exercise, &c. And this to be continued even to the Time of having the Small-Pox.

THOUGH I need not be very particular in relating the Manner of performing this Operation, yet, as it offers next, I shall give you a brief Account of it, and then proceed on progressively thro' the whole Method of Practice.

I THINK it does not appear to be a Matter of Consequence, that we should be confined to any Part of the Body for the Performance of Inoculation, being fully satisfied that the Application of the Matter to any Part will be alike productive of the Small-Pox. The
propereſt

propereſt Places, however, for making the Inciſions, ſeem to be in the Arms, in the Diviſion of the Muſcles, where Iſſues are commonly ordered to be made. And theſe, for the Sake of Drain, may be continued afterwards, as Iſſues, for any Time you pleaſe, with the Help of a Pea, ſticking Plaſter, and Bandage.

THE Inciſions ſhould be ſhallow, and about the Length of Orifices made in letting Blood, to which a ſmall Matter of *Pus*, taken on Pellets of ſoft Lint, of the Size of ſmall Peas, is to be applied, laying on Pieces of common Plaſter with Bandage to keep it on. After four and twenty Hours, the Lint is to be taken off, and the Orifices to be dressed, with the common Plaſter, once in a Day or two, or oftener, as there is Occaſion.

IT matters not what Quantity of the *Pus* is made Uſe of, the leaſt diſcernible on the Lint being ſufficient to answer the Purpoſe of Inoculation; and

Ex-

22 *The Practice and Theory*

Experience has convinced me that it is, in Reality, of no Consequence from what Kind of the Small-Pox it is procured. I knew one and twenty Persons inoculated the same Day with Matter taken from one who had a confluent Small-Pox, and died of it; yet these, notwithstanding, all had it in as favourable a Way as could be wished for: And I have inoculated many more with Matter of the malignant Kind, without any Manner of ill Effect.

THE Seasons of the Year make some Difference, and I think in warm Weather the Distemper comes on faster, and with fewer Symptoms, than in cold.

THE fittest Time for procuring the morbidic *Pus* is in its State of Maturation; yet I have sometimes applied it sooner, while only a limpid Water, and could perceive no other Difference than that it was somewhat slower in its Operation, seemingly as Fruit gathered too early, which required some longer Time
to

to bring it to Perfection. But, when it can be taken from an inoculated Patient, the seventeenth or eighteenth Day from Inoculation will most commonly furnish it of the proper Consistence.

I do not know how long a Time the Matter may be depended upon to answer the Purpose of Inoculation ; but take it for granted, that it will always do so long as it retains its Consistence in the Pustules. I took some once from a Pustule on a Person's Foot, when those on the upper Parts had been dried up several Days, and the Patient had been purged two or three Times, which answered the Intention, as well as any I had ever made Use of. Where the Small-Pox has been too slight to furnish Matter from an inoculated Patient by the Pustules, I have oftentimes applied the purulent Discharge by the Incisions, in the Height of the Distemper, which has succeeded well. But when I once, for the Sake of Experiment,

took

24 *The Practice and Theory*

took some of the same, where there was a very copious Discharge, at eight or ten Days after the Turn of the Small-Pox, it failed of answering my Expectations, having, I suppose, in that Length of Time, run off all its Variolosity. The Person to whom this Matter was applied, being in the same House with six or seven others, who were inoculated, at the same Time, with other Matter, took the Distemper afterwards of his Companions in the common Way, which convinced me fully of this Matter; which, otherwise, I should have been in some Doubt about, having had several inoculated Patients, in whom the Symptoms were remarkably light, and, in some few, no Pustules at all: But these I have judged to be secure from ever taking the Small-Pox again; for being accompanied by other inoculated Patients, who had the Small-Pox at the same Time, it is most probable

ble they must have taken it in the natural Way.

How long the variolous Matter, taken upon Lint, may be preserved to answer the Purpose of Inoculation, I know not ; having never used any myself that had been let out of the Pustules more than three or four Days ; but suppose, upon the Credit of the following Account, it will retain its Variolosity much longer.

MR. *Dutton*, Surgeon, at *Lindfield*, in *Suffex*, informed me, that he, unwarily, gave a certain Woman the Small-Pox, in Bleeding her with the same Lancet, which he had used nine Days before in opening some Pustules, in Order to take Matter for Inoculation, and neglecting to wipe his Lancet afterwards ; that, being called in to this Patient two or three Days after, he found the Orifice not closed, but the Lips hardened and inflamed, as the Incisions usually appear after Inoculation ;

26 *The Practice and Theory*

and that, the Symptoms happening according to the Time, she had the Small-Pox favourably ; after which the Orifice was disposed to heal of its own Accord *.

ABOUT the sixth Day from Inoculation, Flushings in the Face and other usual Symptoms and Alterations begin to happen, which from henceforward continue increasng, till they gradually kindle into the Disease, which is confirmed by Eruptions happening, for the most Part, on the ninth Day ; though sometimes sooner or later, as different Temperaments and Seasons

* Other similar Accounts, of the Small-Pox having been inserted in like Manner, have been communicated to me, by Mr. *Adcock*, jun. of *Ashford*, in *Kent*, and others ; whose Testimonies are an unquestionable Authority for the Truth of this Matter. And, since the Writing of this Letter, I have known that the purulent Discharge, taken from the Incisions of an inoculated Patient, has been used with Success, after it had been kept in a Box nineteen Days.

may

may occasion. Three or four Days compleat the Bringing out of the Pustules; after which, arising above the Superficies of the Skin, they continue daily to increase, until they arrive at their full Pitch, appearing yellow and purulent. And this is usually accomplished in about eight Days from the Time of the first Appearances. From this State, they begin to grow hard and incrusted, and dry up into Scabs; which in a few Days fall off of themselves, leaving only shallow Marks behind them, and seldom deep enough to cause any lasting Impressions: And thus endeth the simple or distinct Kind of the Small-Pox, which is, for the most Part, that produced by Inoculation.

THE Symptoms, how many and how violent soever they are, ought very cautiously to be acted upon; that Nature, with the Help of proper Diluents, may be left to do her own Work; and

28 *The Practice and Theory*

she will seldom fail, except where there is perverse Usage, or Mal-treatment. In extreme Pain of the Head, attended with *Delirium*, &c. occasioned in a great Measure by Over-Costiveness, I have commonly ordered a gentle Clyster, which has sometimes given great Relief; but, when this fails of answering the End, drawing Blood from the Arm will be a proper Means to hasten the Expulsion of the Pustules, unless Nature should do without such Assistance, by occasioning an involuntary Bleeding at the Nose, which generally proves a certain Remedy: In Case of Sickness at Stomach, or Vomiting, a Cup of Oil, with now and then a plentiful Draught of warm Water, just to rince out the Stomach, will be very serviceable. A *Diarrhœa* so rarely ought to be restrained, that it stands in Need of no Remedy; and a sore Throat requires Nothing more than now and then a Draught of cold Water,

ter,

ter, or Barley-Water, with a little Juice of Lemon. A *Dysuria* is relieved by an emollient Clyster, and Drinking plentiful Draughts of common Emulsion, with *Sal-Prunel*, or purified Nitre added to it. Convulsions in Children, which are nevertheless accounted as certain Fore-runners of a kindly Small-Pox, are remedied by Epispasticks.

DURING the Coming out of the Pustules, it is by all Means right that the Patient be kept pretty much in Bed, especially if the Weather be cold, under his accustomed Weight of Cloaths; for an equable Warmth is necessary; afterwards, provided the Pustules are slight, he may sit up as much as he pleaseth, so as not to be wearied or fatigued by it.

TOWARDS the Pitch of the Distemper, in Case of any extraordinary Restlessness, *Diacodium*, or *Thebaic Tincture*, may occasionally be given, but there is seldom any Need of either.

SMALL

30 *The Practice and Theory*

SMALL Bohea and Green Teas, with Milk and Sugar, Milk-Porridge, Barley-Grewel, Bread and Butter, Rice, Millet, and Bread-Puddings, Custards, Apple-Tarts, Potatoes, &c. are proper Food in the Small-Pox. And Small-Beer, Barley-Water, Milk and Water, Emulsions, and pectoral Apozems, common Dilutors to be drank plentifully of: But I prefer good soft Water, drank quite cold, or with a Toast, to all other Things; being convinced, by repeated Experience, that it exceeds all the rest. In a Word, it is the only Drink that Nature craves for, and perhaps the very best Dilutor in the Universe. I inoculated two of my own Children, the Twenty-fourth of *December*, 1746; the eldest of which, though not then six Years old, had the fullest Small-Pox of any one of twelve inoculated at the same Time: And, though the Pustules appeared, at their first Coming out, small, and ill-conditioned,

ditioned, yet, by a plentiful Dilution with cold Water only (which had always been his common Drink) he kept himself constantly cool and quiet, without any sore Throat, or other troublesome Symptom throughout the Distemper; and by this Means, without having Occasion for any Medicine whatsoever, mended daily the Complexion of the Pustules; and filled and ripened them to the greatest Perfection; so that he, though all over full of Pustules, might be said to have passed through the Small-Pox, without any real Complaint: And this I think is to be attributed to the cold Water only, as it kept him constantly cool and refreshed; so that Nature, neither thwarted nor disturbed by any perverse Treatment, did her own Work in the most perfect Manner.

I THOUGHT it right to signify this Matter at large, as it is a Thing of the greatest Consequence in the Management

32 *The Practice and Theory*

ment of the Small-Pox, in Order to take an Opportunity of exploding, what I am able, Possets of Sack and White-Wine, which are commonly made, by the Dealers in those gainful Commodities, of such unwarrantable, balderdash Compositions, as would sooner prove a Poison than a Remedy for the Sick: And I am daily surprized to see some Men continually drenching themselves at their Meals with such adulterated vinous Fermentations, as are fit only to propagate Diseases, for the Sake of helping on Digestion; when, at the same Time, unwarily, they are putting a Difficulty upon Nature to get the better of those poisonous Digestors themselves. Let us consider that Digestion is wholly the Work of Nature, and that we are to satisfy her Cravings, by such Things only as are cooling, diluting, and dissolving. But there are no general Rules without Exceptions; and Drink, as well as other Things, must

must be varied according to the Circumstances of the Case, or Humour and Condition of the Patient.

BUT I must beg Leave to be understood, that the Regimen, I have here recommended, is supposed to be fitting for such only as have lived within the Degrees of Temperance and Regularity. For, in Regard to those, in whom strong Drinks and high-seasoned Foods are by Custom grown habitual, I am inclined to think their very Habits are frequently so very much preternaturalized, as to admit of no other Regimen than Intemperance.

IN the coherent or confluent Kinds of the Small-Pox, which I believe but seldom happen under Inoculation, a more malignant Fever attends the Eruption; and the Pustules appear more small, flat, and ill-conditioned; and never can be brought to a kindly Suppuration; so that, in fine, the Success depends, in great Measure, on the Tumefaction

34 *The Practice and Theory*

mefaction of the Head and Face, and other Parts; which is assisted by drinking large Draughts of diluting Liquors: But, as these Cases are highly inflammatory, there is a Necessity for large and frequent Bleedings, in Order to take off the Lensor of the Blood in the capillary Vessels, which, otherwise, by Means of the Circulation, being forced forward into the Veins, contaminates the whole Mass. The Body also must be kept open with Lenients: And *Sal-Prunel*, or Nitre, given frequently in Emulsions, proves very serviceable. In Case of *Nausea*, or Sickness at Stomach, the following Powders and Mixture give Relief quickly.

℞ *Pulv. è Chel. Cancr. Comp.* ʒ ij.
Ol. Nuc. Mosch. gr̄ vj. m.

Pro jv. vel vj. dosibus. Et detur tertiâ vel quartâ quaquâ horâ cum sequentis
Misturæ Cochl. iij. vel. jv^{or}.

℞ *Aq.*

℞ *Aq. Alex. simpl.* ℥iiij.
 ——— *Nuc. Mosch.*
Syr. Limon. aa ℥iss.
Sal. Absinth. ʒj. m.

OPIATES, in the Increase of this Distemper, sometimes are of great Service, by restraining the Heat and Effervescence of the Blood; but, when they occasion a *Delirium*, must be let alone; and their Effects carried off by Clyster, or gentle Physic.

EPISPASTICKS applied about the seventh or eighth Day of the Small-Pox, if the Head seems much affected, do great Service; and the Parts are to be kept running till Suppuration comes on, which is seldom brought about before the twelfth or thirteenth Day of the Distemper.

SALIVATION, which sometimes happens immediately upon Eruption, sometimes not till two or three Days

36 *The Practice and Theory*

after, is to be kept up by a plentiful Drinking of pectoral Apozems, or Emulsions with Nitre, &c.

BUT above all Things it is necessary that the Body be kept open, by gentle Means, quite through the Distemper; which will occasion a lesser Need of *Opiates*, and prevent other troublesome Complaints. The following is a remarkable Instance of the Success of this Practice.

A HAIL young Man, who had the greatest Confluence of the Small-Pox I ever saw, the fifth Day of the Distemper grew so outrageous that he could not be kept in Bed: Not having gone to Stool for several Days, I gave him six Drams of *Sal Glauberi*, dissolved in Water-Grewel, which, though contrary to my Expectation, purged him ten Times at least; however, it had this good Effect, that he kept his Bed afterwards, and rested tolerably well for several Nights without any composing Medicine;

Medicine; and by frequent Repetitions of a Dram or two, at a Time, as there was Occasion, it kept him going to Stool, and making large Quantities of Urine, throughout the Distemper. The eleventh Day, at Night, the Tumefaction of his Head and Face, which before was inconsiderable, became of a sudden so enormous, that it was thought necessary to apply Blistering-Plaisters, in Order to take off the Tension; and the Salts were repeated that Night as usual. The next Day, towards Evening, I perceived a little Matter ouzing at his Forehead, whence I concluded the Crisis to be approaching. The Swelling, this Evening, was vastly increased about his Neck and Throat; and, being very restless, a strong Anodyne was given him, which occasioned him to have some Sleep: And the next Day, the Matter discharging more plentifully, I gave it as my Opinion that there was a good Prospect of a happy Issue:

38 *The Practice and Theory*

Issue: However, the Tension of the Parts still remaining, especially about his Neck and Throat; and other Parts of his Body surprisngly swelled; and the Restlessness still greater; I ordered the Anodyne to be repeated, by which Means he had a tolerable good Night. At this Time, the Superficies of his Head and Face was grown hard, and covered with a Crust, which, in many Places, began to crack, and discharge surprisng Quantities of Matter, of so filthy a Stench that no one could bear the Room. I ordered soft Linnen Rags to be applied to receive the Matter, kept him frequently going to Stool, and, in about fourteen Days, had him taken out of Bed; from which Time, by continuing the Purging as often as he could bear it, he gradually regained his Strength to a perfect Recovery.

I OUGHT to have taken Notice that this Person was not inoculated, but took the Small-Pox, by Infection, in the common Way.

THE

THE Indolence of Nature, in the Course of this Distemper, is to be assisted by Cordial Medicines, as *Confect. Raleigh. Cardiac.* Volatiles, &c. as there seems to be Occasion for them; and plentiful Draughts of small Liquors, taken in the Intervals, prove always of great Service: For, while the Cordials cherish the Heart, the Dilutors assist in carrying on the morbid Matter to the Pustules.

FOR a sore Throat, in the Increase of the Distemper, emollient or detergent Gargarisms, to lubricate or scour, as there is Occasion, and a liberal Use of Ecligma's will be necessary.

IN the Decline of the Disease gently opening Medicines should be given, and repeated every Day or two, unless Nature renders them useless by answering that End of her own Accord; and, when it so happens, Purging may be delayed the longer, till such Time as the Patient regains Strength to be the better able to bear it.

40 *The Practice and Theory*

IT will be convenient, upon the Drying up of the Pustules, to use Oil of Sweet Almonds, or other Sweet Oil, by Way of Liniment, which will soften the Scabs, and make them fall off the sooner.

THOSE Abscesses, or Boils, which sometimes happen after the Small-Pox, are brought to Suppuration, in a short Time, without any Kind of Difficulty; and cured by Puncture with a Lancet, dry Lint, and common Plaister. I have pricked several of them before they came to suppurate, which, after Letting out the Blood, grew well in a Day or two; and I never knew any of them repullulate.

THE inoculated Parts, from the Appearance of the first Symptoms, ought to be daily inspected; that we may lend our Assistance, on Occasion, towards hastening the Separation of the Eschars, and promoting the Discharges in proper Time: And this I look upon
to

to be a Matter of the greatest Consequence. For Nature, by Means of a continual Drain, is greatly aided in her Attempts to throw off the Matter of the Disease, which has an easy Recess through the very Channel, by which its Taint or Venom was at first introduced. And the Perspicuity of this Theory is sufficiently manifested by the Incisions not being disposed to heal up till such Times as the Disease itself is thoroughly extinguished.

BUT the Art of Inoculation will appear in the most conspicuous Light, by giving you a short Account of the Success attending my own Practice; in which, out of three-hundred Patients, between two Years old and fifty, I have had the good Fortune to meet with only one Miscarriage; and that, from such an Incident, as, I am persuaded, ought, by no Means, to be attributed to Inoculation; for I am verily disposed to think, that, even this

F

would

42 *The Practice and Theory*

would not have happened, if proper Care had been taken that the preparatory Means, prescribed before-hand, had been duly complied with.

THIS Patient was a Boy of four Years old, of a gross Habit ; for which he was ordered Calomel-Purges, and a Course of *Æthiops-Mineral*, for three Weeks or a Month before Inoculation ; after the Coming out of the Small-Pox, of which he had a pretty many Pustules of the distinct Kind, the sixth Day he complained of a Gripping in his Belly ; and a *Diarrhæa* happened upon it, which I was in Hopes would have carried off the Disorder ; but the Day following, in the Evening, he had a cold shaking Fit, and after that a Vomiting, by which he brought up a large Worm. He died the next Day, being the eighth from Eruption, and seventeenth from Inoculation.

THESE surprising Occurrences happening put me upon the Enquiry, whether

ther the Boy had duly persisted in the Course of Medicine ordered him before his Inoculation ; when a Maid-Servant of the Family, who was inoculated at the same Time, did assure me, that she verily believed that all the Physic he took in the Preparation never purged him once ; for the Child, she said, was so much indulged, and suffered to do as he pleased, that she even questioned whether any one Dose of the Black Powder was taken properly as it ought to be.

THE Death of this Child was apparently owing to the Worm-Fever, which happened in the Small-Pox : But the Circumstances of the Case were so sudden and surprizing, that I do not know whether there could have been Time to do any Good, by treating it with its own Remedies : A Practice, which, at this Time, has the Honour to be patronized by Dr. *Mead* *.

Thus

* Non alienum hic erit generatim & universe

44 *The Practice and Theory*

THUS have I ingenuously given you an Account of the good and ill Fortune attending my own Practice, and can only wish that the exonerating myself from the Engagements I lay under may contribute in any wise to your Satisfaction. However, it may be worth the Attention to reflect seriously whether it be not highly probable, from the Success attending the Numbers I have been concerned for, that Inoculation has been oftentimes a Security against taking the most dangerous Kinds of the Small-Pox: And, if so, give me Leave to infer how great the Advantages of it must consequently be to those, especially, whose peculiar Habits and Temperaments render them naturally disposed to such Sorts, under the Care and Advice of our learned Physicians, whose Sagacity is as conspi-

monere quicumque morbus acutus variolis accedit, cum remedia sibi propria requirere, atque ut plurimum satis commodè sustinere. Cap. De nonnullis quæ in variolis accidunt.

CUOUS

cuous and eminent in correcting them, as in the Cure of Diseases.

BESIDES the Skill in obviating or remedying Mischiefs that would be likely to happen, may it not be esteemed as highly necessary and advisable also in adapting, for this Operation, the most fitting and convenient Seasons of the Year, to the various Ages and Temperaments of Individuals?

BUT, in Order to give you an Opportunity of judging the better concerning this Practice, I shall communicate an Account * of its Success, for the first eight Years of its being used in these Kingdoms, compared with the Hazard of the natural Small-Pox for that Number of Years, which is comprised in the following Table.

* From Dr. *Scheuchzer's* Account of the Success of Inoculating the Small-Pox, for the Years 1727 and 1728.

A Table,

A Table, shewing the Mortality of the natural Small-Pox, from the Year 1721 to 1728, inclusive, compared with the State and Hazard of Inoculation during that Time.

Natural Small-Pox.					Inoculated Small-Pox.				
Years.	Total Number of Burials.	Died of the Small-Pox.			Number of Persons inoculated.	Had the Small-Pox by Inoculation.	Suspected to have died of Inoculation.	Had an imperfect Small Pox.	No Effect.
		In all.	In 1000.	In Proportion.					
1721	26142	2375	91	$\frac{1}{11}$	} 483	449	9		
1722	25750	2167	84	$\frac{1}{12}$					
1723	29197	3271	112	$\frac{1}{9}$					
1724	25952	1227	47	$\frac{1}{21}$	46	42	1		
1725	25523	3188	125	$\frac{1}{8}$	152	144	3		
1726	29647	1569	53	$\frac{1}{9}$	107	102	1		
1727	28418	2379	84	$\frac{1}{12}$	} 109	106	3		
1728	27810	2105	76	$\frac{1}{13}$					
Total.	218439	18281	83	$\frac{1}{12}$	897	843	17	13	24
At a Medium.	27305	2285	83	$\frac{1}{12}$					

FROM

FROM hence it appears, that out of eight-hundred and ninety-seven Persons, of both Sexes and all Ages, that were inoculated in the Course of eight Years, Eight-hundred and Forty-three had the true Small-Pox by Inoculation, to which if we add Thirteen, who had, what was termed, an imperfect Small-Pox, then the whole Number of Persons, upon whom the Small-Pox had an Effect, will be Eight-hundred and Fifty-six.

THAT it had no Effect upon Twenty-four, out of Eight-hundred and Ninety-seven, was looked upon, at that Time, as nothing remarkable; many of them being supposed to have had the Small-Pox before; which was known to be the Case of some, who were inoculated only for Experiment's Sake; and was doubtful with Regard to many of the rest.

AND whereas several of those, who were suspected to have died of Inoculation,

48 *The Practice and Theory*

lation, appeared to have been of a sickly Constitution, or actually labouring under Diseases, I think their Deaths cannot in Justice be brought in to increase the Hazard of Inoculation, which should be performed with all proper Caution, and upon Persons of a healthy Constitution only.

PERMIT me, Sir, to observe to you the Reasons that have been heretofore given why most of those seventeen Persons, in the foregoing Table, who are supposed to have died by Inoculation, ought to be struck off the List; and then let your impartial Judgment make an Estimate of the Hazard of this Practice, compared with the natural Small-Pox, with, or without Allowances, as you think proper *.

* The Histories of these Cases were published by Dr. *Jurin* and Dr. *Scheuchzer*, in their Accounts of the Success of Inoculating the Small-Pox.

THE Seventh and Fourteenth of these Cases ought to be left out of the Computation, because those two Persons had not in Fact received the Small-Pox by Inoculation; their Deaths, though indeed subsequent to it, having been apparently owing to other Causes; in one to a nervous Fever, which carried the Patient off near three Months after the Operation; in the other to a *Hydrocephalus*; and this latter died on the eighth Day from the Incisions, before any Appearance of an Eruption.

THE Tenth ought to be struck off the List, because his great Irregularities, and Excesses in Drinking, even after he underwent the Operation, were evidently the Cause of his Death.

THE Twelfth ought not to be taken in, because the Patient died of a malignant Fever, sixteen Days from the Eruption, when the Small-Pox was dry and scaling off.

50 *The Practice and Theory*

THE Eighth ought to be left out, because there is great Reason to suspect that the Patient took the Small-Pox in the natural Way; the Eruption appearing some Days sooner than is usual in the inoculated Small-Pox.

THE Fourth, Sixth, and Sixteenth Cases, as being Persons of a sickly Constitution, and unfit for Inoculation, ought to be left out of the List.

ALL those also should be left out of the Question, who did not die in the Course of the Distemper, but by subsequent Disorders and Accidents; and after the Small-Pox was gone off; since, in the Bills of Mortality, they are not brought in under the Article of the Small-Pox, but under the respective Diseases they happened afterwards to die of; and that, on this single Account, there may be Room to strike off the first, second, fifth, ninth, thirteenth, and fifteenth Cases.

AND,

AND, these Deductions being made, there remain but Three out of Eight-hundred and Fifty-fix, that is, One in Two-hundred and Eighty-five, that can be said to have died of Inoculation : And, perhaps, even the third and eleventh Cases might be disputed from the Circumstances ; and the seventeenth for Want of a more particular Information.

IT appears by the foregoing Table, that, in the Course of eight Years, there died of the Small-Pox every Year, at a Medium, Two-thousand Two-hundred and Eighty-five, out of Twenty-seven Thousand Three-hundred and Five, or a twelfth Part of the total Number of Burials.

THAT the greatest proportional Mortality was in the Year 1725, when this single Distemper carried off Three-thousand One-hundred and Eighty-eight out of Twenty-five Thousand Five-hundred and Twenty-three, or

52 *The Practice and Theory*

one Eighth of the total Number of Burials : And that, notwithstanding, the Practice of Inoculation proved very favourable, but Three being suspected to have died out of One-hundred and Forty-four, or One in Forty-eight.

IF we suppose that the Two-thousand Two-hundred and Eighty-five, who died yearly of the Small-Pox, at a Medium, for those eight Years, had been inoculated, and allowing the Hazard of Inoculation to be what it proves at the utmost, that of One in Fifty, there would have died then out of this Number only Forty-five or Forty-six ; so that two-thousand two-hundred and forty Lives might have been saved annually.

BUT, as it may be objected against this Estimate, that we ought not to form any Comparison merely and independently from the Number of those who were carried off by the Small-Pox,

Pox, but that we ought to consider the Matter with Regard to the Number total of Persons of all Ages and Constitutions, who must have been sick of this Distemper to occasion such a Mortality: Let us see how the Case would have been then. The Hazard of the natural Small-Pox appears by the Calculations above to be that of One in Six, and two-thousand two-hundred and eighty-five Persons having died of it, at a Medium, it follows, that Thirteen-thousand Seven-hundred and Ten must have been sick of the Distemper, at a Medium, every Year. Now supposing the Practice of Inoculation to have been universally prevalent, and allowing its Hazard to be that of One to Fifty, there would have died then out of that Number Two-hundred and Seventy-four or Two-hundred and Seventy-five, instead of Two-thousand Two-hundred and Eighty-five, and consequently at least

54 *The Practice and Theory*

least two-thousand Lives would have been saved annually out of Two-thousand Two-hundred and Eighty-five, and Sixteen-thousand and upwards out of Eighteen-thousand Two-hundred and Eighty-one, who actually perished by this Distemper only in the Course of eight Years.

IF, on the contrary, the Eight-hundred and Forty-three, or Eight-hundred and Fifty-six, who received the Small-Pox by Inoculation, had been infected in the natural Way, a Hundred and Thirty, or a Hundred and Thirty-one, would have been lost out of that Number instead of Seventeen; so that Inoculation may be reckoned to have actually saved a hundred and thirteen or fourteen Lives, which would otherwise have been lost by this Distemper.

THE above Calculations are a manifest Explanation of the Hazard of Inoculation, compared with the Small-Pox

Pox in the natural Way; and plainly shew that it tends to the Preservation of Mankind, by lessening the Danger to which they are otherwise liable.

BUT the Perverseness of some, and the plausible Pretences of others, render it impossible for all to be of one Opinion in this Matter. To the former of these I say Nothing; but to those, who, from a real Scruple of Conscience, censure this Practice, as a presumptuous and daring Attempt to shake off that Dependance we all have on the Divine Providence, I answer, that it is very allowable to endeavour to avoid a great Evil by chusing a less, and that that is the Case of Inoculation the foregoing Calculation sufficiently proves.

HOWEVER, to carry this Matter a little further, let it be objected that my Child may chance to pass his whole Life-time without catching the Small-Pox; and why, upon this Supposition, should

56 *The Practice and Theory*

should I run the Hazard to inoculate him? Were I sure this would be the Case, my Answer would be obvious; but as it is not, and as the frequent Intercourse with Mankind renders it almost unavoidable, why should I permit him to live in perpetual Dread of a Distemper, which it is in my own Power, with little Hazard, to free him from? For in this, as in every Thing else of Consequence, I am to let my Reason guide me; and, so soon as I am determined by that what I ought to do, I will fix my unalterable Resolution, and presently say to myself——I ought, and therefore——I will.

THIS was the Sentiment of my ingenuous Friend, Dr. *Fuller*, according to whose Apprehension the Case of Inoculation standeth thus:

“ If

“ IF any great Evil, threatening
“ Life, will probably fall upon us,
“ we know not when, though we are
“ not infallibly sure it ever will at
“ all ; and we have it in our Power
“ to prevent the Danger of it, when-
“ ever we please, by doing something
“ that has but little Trouble or Peril
“ in it ; in all Prudence we are bound
“ to do it.

“ Now, to set this Matter in a clear
“ Light, let us suppose an Island into
“ which the far greater Part of Man-
“ kind will be unavoidably forced,
“ whether they will or not, to go
“ once, and but once in their Lives ;
“ and none can possibly foresee who
“ shall be forced, or when.

“ ALL that went formerly used to
“ wade through a most dangerous Ri-
“ ver, wherein about One in Six were
“ generally drowned.

H

“ BUT

58 *The Practice and Theory*

“ BUT of late a Ferry-boat hath
“ been built, which is always ready
“ at Call, and in which the Passage is
“ so easy, and so safe that not above
“ One in Fifty have been known to
“ fall over-board, and perish ; and
“ those few that did so had their Mis-
“ fortune from some Accident, Care-
“ lessness or Mismanagement, and in
“ no wise from any Fault in the
“ Boat.

“ AND now let any one, whom
“ groundless Prejudice hath not robbed
“ of his thinking and reasoning Fa-
“ culties, judge whether it be not a-
“ bundantly more prudent and prefer-
“ able, to chuse a Time when it is
“ most convenient for him, and then
“ voluntarily ferry over, and so secure
“ himself for ever, than to be at un-
“ awares snatched up, and, against
“ his Will, forcibly hurled headlong
“ into the hideous River, there to
“ plunge about, and struggle for Life
“ many

“ many Days, and be drowned at
“ last; or, if he happen to get out,
“ yet it may be but badly, with Marks,
“ Scars, and Deformities, and perhaps
“ total Loss of Sight.”

THE Fate of Inoculation was judiciously stated at first by Dr. *Jurin*, to depend principally upon the Decision of the two following Questions.

1. WHETHER the Distemper given by Inoculation would be an effectual Security to the Patient against his having the Small-Pox in the natural Way?
2. WHETHER the Hazard of Inoculation would turn out to be considerably less than that of the natural Small-Pox?

WITH Regard to the first of these Questions, I need only to intimate,
Sir,

60 *The Practice and Theory*

Sir, that the Usage of this Practice, for near thirty Years past, has been long Time enough of Experiment for its Security to the Patient against any more Harm from that Distemper : And I can look out for no fitter Subject than myself to offer for a Proof of this, having had the Small-Pox by Inoculation above five and twenty Years ago, in a very favourable Manner ; and, notwithstanding my having been conversant with that Distemper, both in the natural Way and by Inoculation, for many Years since that Time, never could get it again.

IN Reply to the second Question, I am sufficiently persuaded that the Calculations above-mentioned have manifestly set forth, that the Danger and Hazard of the Small-Pox by Inoculation is considerably less than in the natural Way : And, if compared with the Account given you of my own
Success,

Success, will appear to be much more so.

AFTER all, I shall take Leave of this Subject, with wishing that the Practice of Inoculation, as it is so beneficial to Mankind, may meet with its deserved Encouragement.

F I N I S.





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